



11-20-08

AF/PAW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of )  
ANDREW C. KESLING )  
Serial No. 10/695,695 )  
Filed October 29, 2003 )  
For: BONDABLE ORTHODONTIC )  
APPLIANCE WITH A POLYMER )  
RESIN BONDING BASE )  
Examiner Ralph A. Lewis  
Group Art Unit 3732

BRIEF ON APPEAL

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

**I. REAL PARTY IN INTEREST.**

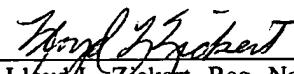
The real party in interest in this application is TP ORTHODONTICS, INC. by assignment from the applicant and inventor ANDREW C. KESLING.

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I hereby certify that this correspondence is being deposited with the United States Postal Service Express Mail in an envelope addressed to Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 on November 17, 2008.

  
Lloyd L. Zickert, Reg. No. 17,807

**II. RELATED APPEALS AND INTERFERENCES.**

While there are no related patents, applications, appeals, interferences or judicial proceedings known to appellant, the appellant's legal representative, or assignee which may be related to, directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal, this application is a continuation of appellant's once copending application No. 10/224,770 filed August 21, 2002, now U.S. Patent 6,685,468. A Terminal Disclaimer was filed on April 25, 2007 in this application to overcome a rejection on non-statutory, obviousness-type double-patenting.

**III. STATUS OF CLAIMS.**

Claims 15-17, 24 and 25 are pending and were finally rejected by the Examiner in the Final Rejection dated July 29, 2008. No claims have been allowed. A Notice of Appeal was filed on October 28, 2008.

**IV. STATUS OF AMENDMENTS.**

No amendments have been filed subsequent to the Final Rejection. The last amendment filed before the Final Rejection of July 29, 2008 is dated April 30, 2008, and which made minor clarification amendments to Claim 24. The only rejection of the claims is under 35 U.S.C. 103(a) as being unpatentable over the prior art references of Muller 3,345,745; Lemchen 5,890,892; and Kesling 5,263,859.

**V. SUMMARY OF THE CLAIMED INVENTION.**

The claimed subject matter as set forth in Claim 15 is directed to an orthodontic appliance 15 for bondable mounting with a light-cure adhesive on a tooth, including an appliance body 17 having a buccal/labial archwire receiving side 21 and a lingual side 22 in combination with a light-permeable, heat- or light-cure polymer resin bonding base 19 that is molded onto the lingual side of the body so that a part of the body is embedded in the base and the base defines an integral peripheral lip 27 overlapping a part of the appliance body, as particularly shown in Figs. 1 through 6. (Page 12)

Significantly, appellant's invention is the first orthodontic appliance with a resin base bondable to a tooth with a light-cure adhesive that is light-permeable to enhance the curing of the adhesive entirely over the base, and where the base is molded onto the appliance body such that a peripheral lip is formed to enhance the integrity of the connection to the body, and by virtue of having a resin base is easily debondable from a tooth.

Modifications of the bracket are shown in Figs. 7 through 12.

Claim 16 is dependent from Claim 15 and further specifies that the polymer resin base is acrylic, epoxy or acrylic-based epoxy. (Figs. 1-5, page 12, lines 13-14)

Claim 17 is dependent from Claim 15 and further defines the appliance and is a bracket or a tube. (Page 10, lines 15-19)

Claim 24 is an independent method claim for making the orthodontic appliance of the invention for shipment to a user and which includes a body of ceramic, metal or plastic. (Figs. 1-5, page 11, lines 6-15) The method includes the steps of making an orthodontic appliance

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body of one size such that when a bondable light-permeable polymer resin base is molded to the lingual side of the body the base includes an integral peripheral lip overlapping a part of the appliance body. (Figs. 1-5, page 11, lines 6-22) The appliance body includes an archwire receiving side 21 and a lingual side 22 on which the base is molded. The further step of molding a light-permeable, light-curable or heat-curable polymer resin bonding base to the lingual side of the appliance body such that the lingual side is at least partially embedded in the base and a peripheral lip is formed that overlaps a part of the appliance body (Figs. 1-5, page 12, lines 1-21)

Claim 25 is an independent claim and differs from Claim 15 in that the appliance body is defined as being of metal, ceramic or plastic. (Figs. 1-5, page 11, lines 6-8) This claim also defines a first groove 70 formed in the appliance body and a second groove 72 formed in the base for coaction to define an opening for receiving an arm of an auxiliary appliance to apply a predetermined force to a tooth on which the appliance may be mounted. (Figs. 9-12, page 17, lines 6-12, and page 18, lines 3-7)

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL.**

The rejections by the Examiner to be reviewed on appeal include the rejection of Claims 15-17 and 24 under 35 U.S.C. 103(a) as being unpatentable over Muller 3,345,745 in view of Lemchen 5,890,892, and Claim 25 under 35 U.S.C. 103(a) as being unpatentable over Muller in view of Lemchen and further in view of Kesling 5,263,859.

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On pages 2 and 3 of the Office Action, the Examiner relies only on the embodiment of Figs. 5-10 and asserts that Muller discloses an orthodontic appliance including a metal appliance body 7 (Col. 6, line 4) having a buccal-labial archwire receiving side and a lingual side. This assertion is incorrect because the embodiment of Figs. 5-10 identified in Column 6, while described as comprising a metal body 7, does not include a buccal-labial archwire receiving side. Rather, the archwire receiving sides of the body are the gingival and occlusal sides.

The Examiner asserts that the embodiment of Figs. 5-10 in Muller includes a “light-permeable polymer resin bonding base 16” and that support for this assertion is at Column 2, line 55. This assertion is not accurate, as there is no mention in the description of the embodiment of Figs. 5-10 that the plug 16 is light-permeable.

Indeed, there is no need for the appliance in Muller to include a base of light-permeable material since Muller did not and could not contemplate bonding the bracket to a tooth with not yet developed light-cure adhesive. The Examiner merely relies on an assertion that it is known to one of ordinary skill in the art that the disclosed resinous polymers are light-permeable. This is pure speculation. More accurately, as noted in Column 4, lines 50-67, the brackets are made of a “clear transparent or tooth colored . . . resin” for “aesthetic or cosmetic purposes.”

The Examiner relies on Lemchen in his rejection as teaching a polymer resin the same as disclosed by Muller (again a speculation) that is light, heat or chemically cured. The reference in Column 4, lines 12 and 16, only discloses that a light, heat or chemical catalyst is used for curing the polymer base material. The reference in Lemchen (Col. 4, lines 30-57)

very clearly asserts the transparency of the bracket and/or plug only satisfies aesthetic or cosmetic purposes.

From the references to Muller and Lemchen, the Examiner concludes that it would be obvious to one of ordinary skill in the art to have the polymer resin to be heat- or light-cure polymer resin. This assertion cannot be supported by Muller or Lemchen as neither Muller nor Lemchen discloses a light-cure adhesive.

On page 3 of the Office Action, the Examiner again incredibly speculates as to the fact that the orthodontist's office can be considered a "factory," as well as the movement of the constructed bracket to the patient within the orthodontist's office meets the "shipment" limitation. The Examiner further makes an ethereal assumption that it would be obvious for a lower paid technician to prepare the brackets at a "factory" area and then deliver the brackets to a busy orthodontist. There is no basis for such assumptions, and certainly no prior art teaching of same. The Examiner goes on to speculate that it is unclear how the intended shipment of the Muller prepared bracket adds any obviously ascertainable structural distinction. Finally, in response to appellant's argument that light-cure adhesives were not in use during the 1965 Muller invention, thereby disqualifying the use of Muller as a primary reference, the Examiner rejects the assertion on the basis that the test of obviousness is concerned with the time of appellant's invention. This is a classic hindsight position by the Examiner. While it is conceded that light-cure adhesives in orthodontia were well known at the time of appellant's invention, that does not give the Examiner cause to leapfrog the actual disclosure of Muller for supporting a rejection. In fact, the availability and preferable use of

light-cure adhesive which more reliably and quickly bonds brackets to teeth was instrumental in the development of the present invention.

The Examiner rejected Claim 25 as being unpatentable over Muller in view of Lemchen as applied in the rejection of Claims 15-17 and 24 further in view of Kesling. Again, the shortcomings of Muller are not overcome by the further use of Kesling. While it is conceded that Kesling shows an appliance in Fig. 11 having coacting grooves in the base and body of an appliance body, the formation of an opening by these elements cannot be properly incorporated in an appliance having a body and base as set forth in the claim.

## **VII. ARGUMENT.**

### **A. Introduction.**

Claims 15-17 and 24 were rejected on the sole basis under 35 U.S.C. 103(a) as being unpatentable over Muller in view of Lemchen. Claim 25 was rejected on the sole basis under 35 U.S.C. 103(a) of being unpatentable over Muller in view of Lemchen and Kesling. It is respectfully submitted that these rejections are untenable. Application only of 103 rejections is a concession by the Examiner that appellant's invention is novel.

### **B. Obviousness.**

“In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the obvious reach of the claim.” *KSR International Co. v. Teleflex, Inc.*, 127 S.Ct. 1727 at 1741-42, 82 USPQ2d 1385 at 1397 (2007).

The Examiner rejected Claims 15-17 and 24 under 35 U.S.C. 103(a) as being unpatentable over Muller in view of Lemchen. First, the Examiner misreads Muller in asserting that it includes a buccal/labial archwire receiving side in the embodiment of Figs. 5 to 10. It is only this embodiment that the Examiner relies on in the rejection. The buccal/labial side of the bracket body in Figs. 5 to 10 is convex and cannot receive an archwire. Only the occlusal and gingival sides of the bracket body can receive an archwire. In the event that the Examiner intended to rely on the embodiment of Figs. 3 and 4, which illustrates a methodology for making an appliance for a tooth, that embodiment likewise is inapplicable in view of the mere structure of the appliance, and the multi steps required to fashion the appliance. It does, however, emphasize, as do the embodiments of Figs. 5 to 10 and 11 to 14, that structuring of the appliance is carried out at the chair of the patient. Any of the appliances in Muller are not identified as being made in a lab or at the factory. Indeed, Muller teaches away from the present invention by focusing on making the appliance at the patient's chair which nullifies the efficiency that appellant's invention enjoys by being completely made when shipped to the orthodontist for mounting on a tooth.

The invention of Muller was conceived to overcome the disadvantages of attaching brackets to teeth with metal bands that require separation of adjacent teeth, preforming the bands to the configuration of a tooth, the risks of caries caused by food residue retention, and the unsightliness of bands. On the other hand, appellant's invention solves a bonding problem when using light-cure adhesive to enhance the bond of a bracket to a tooth. Since light-cure adhesive was not available at the time of the Muller invention, Muller cannot be relied on as a

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primary reference to make obvious appellant's invention. Muller more accurately teaches away from appellant's invention in relying on the use of plungers 20 and 21, a provisional foil 23-24, and a permanent adhesive 18 to mount a bracket on a tooth. Appellant's invention merely relies on a light or chemical cure adhesive and the placement of the bracket/base combination against the uncured adhesive that is thereafter cured.

Muller predates the use and development of light-cure adhesive to bond orthodontic brackets to teeth. The first patent known to relate to light-cure adhesive in orthodontia is the Cohl 3,745,653 patent, the application for which was filed in 1971. This fact was made known to the Examiner in the amendment filed October 19, 2007. The Examiner conceded this fact by withdrawing the use of the Collito patent as a reference.

While Lemchen acknowledges curing a base with light-curing methods, there is no suggestion that the teaching could be applied to Muller to bond the molded base of Muller to a tooth. Likewise, since Muller could not ever contemplate use of light-cure adhesive because it was not available, use of Lemchen with Muller is nothing but impermissible hindsight. Only after viewing appellant's teachings would a person of ordinary skill in the art conclude any of the teachings of Lemchen could be combined with those of Muller. And even then the combination does not teach or make obvious appellant's invention.

At this point, it should be appreciated that appellant's invention is to an appliance made at the factory for shipment to a user and includes an appliance body in combination with a resinous base that is light-permeable. The base is molded to the body such that a peripheral lip is formed by the molded base to overlie the edges of the appliance body and greatly enhance

the interconnection between the base and the body, thereby preventing failure caused by separation of the body from the base during use by a patient. The light-permeability functions to greatly enhance the bonding of the bracket to a tooth with light-cure adhesive by virtue of the light traveling into the central area of the bonding base to cure adhesive in that area.

The only discernable explanation for utilizing Lemchen is that it teaches the use of a base for a bracket member bonded with a light-curing resin to a tooth or the bonding by a chemically curable adhesive. In order to properly combine the teachings of Lemchen with Muller, the fact that Muller could not possibly use a light-cure adhesive that was not even available at the time of the Muller invention, the Examiner concludes that this does not make any difference. In this respect, the Examiner concedes that Muller does not teach appellant's invention but resorts to hindsight bias to combine the teachings of the references.

Similarly, the Examiner concedes that the Muller orthodontic device is made in the office of the orthodontist at the patient's chair. The deficiencies of Muller, including the failure to teach a principal part of appellant's invention, is an admission that Muller does not satisfy the primary reference standards. It can only be concluded that the Examiner relies on impermissible hindsight to combine Lemchen and Muller for making obvious appellant's invention and the reconstruction of Muller which would vitiate the thrust of the Muller invention.

In view of the foregoing, it is respectfully submitted that Claims 15-17 and 24 are patentable over Muller and Lemchen, and this rejection should be withdrawn.

Claim 25 was rejected by the Examiner on Muller in view of Lemchen and Kesling. The Examiner asserts that except for the grooves formed in the appliance body and the base, which define an opening for receiving an arm of an auxiliary appliance, the claim is unpatentable on the same basis applied against Claims 15 to 17 and 24. For reasons given above as to Muller and Lemchen, it is initially submitted that Claim 25 is patentable over the primary reference of Muller and the secondary reference of Lemchen. Here the Examiner additionally relies on Kesling as teaching an appliance having grooves 70 and 71 as shown in the embodiment of Fig. 11 for defining an opening formed between the base of the bracket and the body of the bracket. First, inasmuch as the application of Muller and Lemchen is believed to be untenable, as argued above in connection with Claims 15 to 17 and 24, combining the teachings of Kesling with Muller and Lemchen does not make up for the deficiencies in the disclosure of Muller and Lemchen. Second, the thrust of the Kesling disclosure is focused on the use of a flexible base or pad with the bracket body. Further, it is not seen how the grooves of the base and body in Kesling could be utilized in the Figs. 5-10 embodiment of Muller. Accordingly, it is submitted that Claim 5, which is limited to the embodiment of Figs. 9-12 in Appellant's application, is patentable over the combination of Muller, Lemchen and Kesling. It is therefore believed that this rejection is in error.

Since both Muller and Lemchen are concerned only with aesthetics or cosmetic advantages, they essentially teach away from Appellant's invention which is concerned with the integrity of the connection between the appliance body and base and the enhanced bondability of the appliance to a tooth.

**VIII. SUMMARY.**

The Examiner erred by misunderstanding the subject matter of the Muller and Lemchen references as well as the Kesling reference, which individually or collectively do not teach or make obvious appellant's invention. An orthodontic appliance having a light-permeable resin base molded to the body of the appliance so that a peripheral lip is provided around the body to enhance the connection between the body and the base, and which enhances the curability and integrity of the light-cure bonding adhesive employed to bond the bracket to a tooth, and where the appliance is made at the factory for shipment to a user is a patentable improvement in the orthodontic field.

Accordingly, rejection of the claims as being obvious in view of Muller, Lemchen and Kesling, taken individually or collectively, should be overruled.

Respectfully submitted,

November 17, 2008



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**IX. APPENDIX.**

The claims appealed from are as follows:

15. An orthodontic appliance for shipment to a user including a metal appliance body having a buccal/labial archwire receiving side and a lingual side, and a light-permeable, heat or light-cured polymer resin bonding base molded onto the lingual side of the body such that at least a part of the body is embedded in the base and the base includes an integral peripheral lip overlapping a part of the appliance body.

16. The orthodontic appliance of Claim 15, wherein the polymer resin base is acrylic, epoxy or acrylic-based epoxy.

17. The orthodontic appliance of Claim 15, wherein the appliance is a bracket or a tube.

24. A method of making an orthodontic appliance for shipment to a user including a body of ceramic, metal, or plastic having a buccal/labial archwire receiving side and a lingual side, and a light-permeable polymer resin bonding base molded onto the lingual side of the body such that at least part of the body is embedded in the base, wherein the base is molded to the body, said method comprising the steps of:

making an orthodontic appliance body of ceramic, metal, or plastic of one size such that when a bondable light-permeable polymer resin base is molded to the lingual side of the body the base includes an integral peripheral lip overlapping a part of the appliance body, and a bondable orthodontic appliance is produced for shipment to a user for bonding to a tooth, said body having an archwire receiving side and a lingual side on which the base is molded, and

molding a light-permeable, light-curable or heat-curable polymer resin bonding base to the lingual side of the body such that the lingual side is at least partially embedded in the base and a peripheral lip is formed that overlaps a part of the appliance body.

25. An orthodontic appliance for shipment to a user including an appliance body of metal, ceramic, or plastic, having a buccal/labial archwire receiving side and a lingual side, and a light-permeable, heat or light-cured polymer resin bonding base molded onto the lingual side of the body such that at least part of the body is embedded in the base and the base includes a peripheral lip overlapping a part of the appliance body, a first groove formed in said appliance body and a second groove formed in said base coacting with said first groove to define an opening for receiving an arm of an auxiliary appliance or a secondary archwire for applying a predetermined force to a tooth on which the appliance may be mounted.